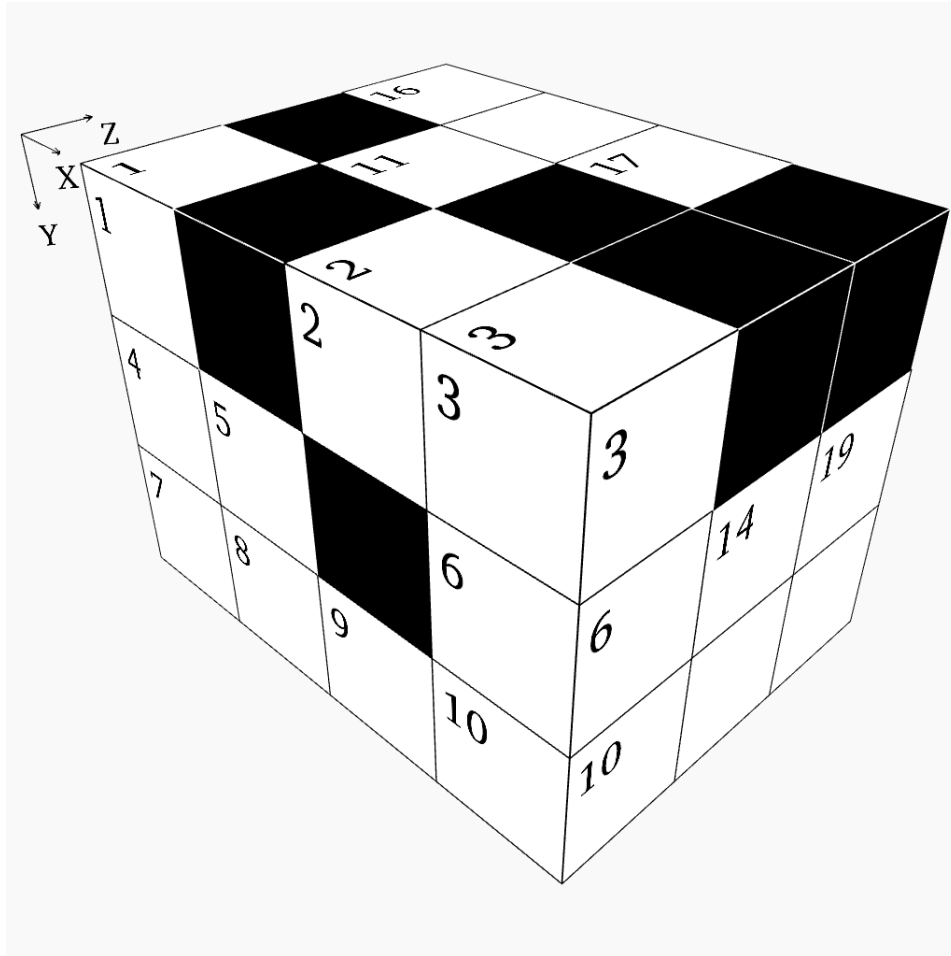


Box - Intermediate Puzzle #3



This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

Rules:

1. "Words" may not start with a zero.
2. "Words" in the X direction read from left to right.
3. "Words" in the Y direction read from top to bottom.
4. "Words" in the Z direction read from front to back.
5. There is one unique solution which satisfies all the clues given below.
6. Some "words" may not have clues. They will be determined by the "words" which intersect them.

If we take the box pictured above and divide it into individual X-Y layers, we will get these planes:

| | | | | | | | | | | | |
|---|---|---|----|----|----|----|----|----|--|----|----|
| 1 | | 2 | 3 | | 11 | | | 16 | | 17 | |
| 4 | 5 | | 6 | 12 | | 13 | 14 | | | 18 | 19 |
| 7 | 8 | 9 | 10 | | 15 | | | 20 | | | |

X Direction

- 2 Z4 divided by X18
- 4 Z6 minus Z5
- 7 X20 minus X15
- 12 Twenty-one times a prime number
- 15 Same as Z9
- 16 Z6 plus Y19
- 18 Half of X4
- 20 Twice a prime number

Y Direction

- 1 Twice a prime number
- 3 Fifty-four more than Z10
- 5 Five times X2
- 11 Five times a prime number
- 13 Mean of Z13 and X18
- 14 A square
- 16 Z6 plus Y17
- 17 Mean of X16 and Z13
- 19 Four times a prime number

Z Direction

- 4 Seventeen times a prime number
- 5 A square
- 6 Seven times X2
- 8 Twenty-two times a square
- 9 X20 minus X7
- 10 Twice a prime number
- 11 Y1 minus half of X15
- 13 X4 minus X2

Solution:

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | | 1 | 7 | | 8 | | | 2 | 1 | 1 | |
| 3 | 8 | | 1 | 2 | 1 | 2 | 1 | 3 | | 1 | 9 |
| 4 | 5 | 5 | 6 | | 5 | 0 | 6 | 5 | 0 | 6 | 2 |